POSITIONING TECHNOLOGY AS AN ENABLING STRATEGY

A STRATEGIC PLAN OF ACTION

OFFICE OF THE CIO

SEPTEMBER 2, 2003

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CHAPTER 1 - INTRODUCTION

Over the past few years, technology has begun to transform the way we conduct business at Miami-Dade County. The establishment of the miamidade.gov portal has created unfettered access to certain government services and information for citizens, businesses and employees. Last year, the "virtual" Miami-Dade County received over six million visitors. Additionally, the County has embarked on several other enterprise-class initiatives aimed at improving governmental effectiveness, convenience and efficiency. To name just a few:

- Technology has been used to optically image more than 45,000 county employee folders (nearly 7 million pieces of paper) into an electronic document management system (EDMS). This system utilizes a sophisticated workflow capability that has simplified management of employee records for personnel staff and resulted in significant cost savings.
- Enterprise licensing initiatives are expected to save the County millions of dollars because of the power of leveraging the entire enterprise. Significant savings have already been realized in Microsoft licensing and countywide access to Oracle database technology. Enterprise Asset Management System (EAMS) negotiations have reduced our former contracts' highly competitive pricing by half because of leveraging support at the executive level.
- Consolidation of over 80% of the County's email services has reduced the number of redundant systems supporting information exchange and lowered the risk of security breaches.

What is meant by the term "enterprise-class initiatives"?

The term "enterprise" refers to an organization of individuals or entities working together to achieve some common goals. Enterprises generally have some common needs, such as information sharing and processing, asset management and tracking, security of business knowledge, etc. The term 'enterpriseclass initiatives' refers to the information technology systems involved in supporting these common elements across the Miami-Dade County enterprise.

These fledging, yet innovative efforts to establish an enterprise-based model for the delivery of government services have resulted in Miami-Dade County receiving national and international recognition as a best practice for digital government. Nevertheless, information technology (IT) faces several critical and substantive challenges that must be addressed if it is to move forward in an effective and successful manner.

• The establishment of web-enabled government services has created heightened expectations on the part of internal and external customers to use technology to accomplish their tasks.

- The increased demand for services must be weighed against the realities of a tighter County budget and reduced pools of money to fund existing and potential IT initiatives.
- The lack of a strong funding mechanism and governance process threatens to derail early efforts to create and sustain a true Miami-Dade County enterprise.
- There is an acknowledged need to strike a balance between adopting an enterprise approach to IT management on the one hand, and allowing individual departments and agencies some level of freedom and flexibility to use technology to meet their own core business needs.

To meet these challenges, continued emphasis must be placed on projects that keep our technical infrastructure a strong foundation for IT applications and services, allow County government to easily share information internally and with the community, and create an order of magnitude of improvement in the County's value to the citizen. At the same time, greater emphasis is needed to ensure that IT projects and programs are managed consistently, are cost effective, are aligned with the County's strategic goals and business user needs, and that there is a proper level of oversight and engagement in the tracking of IT investments and the formulation of policy decisions.

The plan outlined here provides County leadership, technology teams, departments and other IT stakeholders with a roadmap for collaboration, innovation and accountability in order to meet these challenges. It outlines an effective governance model that will provide a methodology for funding and managing IT initiatives at the enterprise level, and describes opportunities, strategies, processes and steps to position Miami-Dade County IT in a "go forward" state to optimize delivery of services for County citizens, businesses and employees.

CHAPTER 2 - ASSESSMENT OF THE CURRENT ENVIRONMENT

In 1999, the Office of the Chief Information Officer (CIO) was established in response to recommendations from the Mayor's Blue Ribbon Panel on Telecommunications (Telecity2000), a countywide Enterprise Information Architecture study performed by a major consulting firm, the Efficiency and Competition Commission. These recommendations were advanced in recognition of the need to provide coordinated leadership with respect to IT issues and an integration path for County technology. Several departments had sole responsibility for their applications, data, and assets, with their own internal IT staff and budget. About 38% of the County's IT positions resided within the Information Technology Department (ITD), which served as the County's central data center, and administered a portfolio of countywide (e.g., payroll) and department-specific applications (e.g., scalehouse system, crime data warehouse).

Without a unifying strategy, these "silos" of IT assets were continuing their vertical growth within County government. Services to citizens were handicapped by departments unable to share information or link processes. At the same time, redundant resources drove up costs and a lack of standardization inhibited the development and cross-utilization of IT staff.

The establishment of an Office of the CIO represented a dramatic shift in the approach to IT management for the County. It followed a trend that had been inaugurated within the private sector in the 1990s and was gaining foothold in the institutional settings of Federal and State governments.

2.1 EARLY EFFORTS

Beginning in 2000, the newly formed Office of the CIO focused on building bridges between disparate IT shops, and addressing a history of distrust between them and the central IT department. Technology working groups were established to tackle specific technology initiatives, and core funding was provided in order to launch key enterprise initiatives including EDMS and eGovernment. Over the next two and a half years, first-generation portal services were implemented, the overall objective of unifying IT resources met with moderate success, and significant progress was achieved in the establishment of new enterprise initiatives. The early vision for the Office of the CIO resulted in numerous accomplishments, but also uncovered new challenges:

- Allocating centralized ownership of capital funding for enterprise initiatives
 proved easier than sustaining a commitment to responsibility for governance,
 particularly when ownership, business needs, and political priorities were not
 always aligned.
- While investment dollars were committed for early starts of programs such as EDMS and eGov, no long-term commitments or funding strategies were developed for on-going operations.

An effort to realize economies of scale and drive down IT costs through consolidation of systems and staff proved to be more complex and controversial than anticipated. Sorting out which components of the IT infrastructure it makes sense to consolidate depends on more than the potential for cost savings. Issues such as current architecture, opportunities for improved service delivery, and the implications for institutional restructuring are also important. These factors will need to be thoroughly examined and cooperatively addressed as we move forward.

By 2003, the CIO capital budget and the lack of methodology for selecting and prioritizing investments dictated the need for revision. In response, the Office of Management and Budget (OMB) began to explore a new methodology for funding IT initiatives, with a focus on business unit involvement. From this, a new funding model was developed with involvement from various departments. The need for an effective governance process was at the core of this funding model.

Changes in IT leadership are now providing an opportunity to reassess the overall IT organizational structure and overlay a new governance approach.

CHAPTER 3 - MOVING FORWARD:

POSITIONING TECHNOLOGY AS AN ENABLING STRATEGY

Miami-Dade County needs a better IT vision for serving the public as well as internal business needs -- one that will enable County government to work together more effectively, reduce the "total cost of ownership" for services, and position technology as an enabling strategy to meet the County's goals and objectives.

3.1 THE ENTERPRISE TECHNOLOGY SERVICES DEPARTMENT

The first step in achieving this objective is to re-consolidate the functions of ITD and eGovernment into a single department. This new organization, the Enterprise Services Technology Department, will report to the CIO, who in turn reports to the County Manager. This is the reporting structure that was in place at the time the CIO position was created in 1998. The consolidation of these departments results in a budgeted cost savings of \$260,000 to the general fund. Additionally, it will better position the IT organization to serve as a "utility" for enterprise-class initiatives.

3.2 OTHER IT CONSOLIDATION EFFORTS

It is proposed that the countywide IT consolidation effort which began a year ago also move forward, but with a change in direction. The biggest opportunities for benefit will be across lines of function, not departments. Systems designed to serve the entire organization, or even large communities within the organization should be approached as enterprise solutions. It does not serve the County well to have multiple contract monitoring systems, human resource systems, etc.

One of the challenges we have faced in the past dealt with funding strategies for enterprise systems, as well as governance. The implementation of a new funding model, coupled with an effective governance process, will facilitate the implementation of enterprise strategies and consolidation efforts where they make sense and offer value.

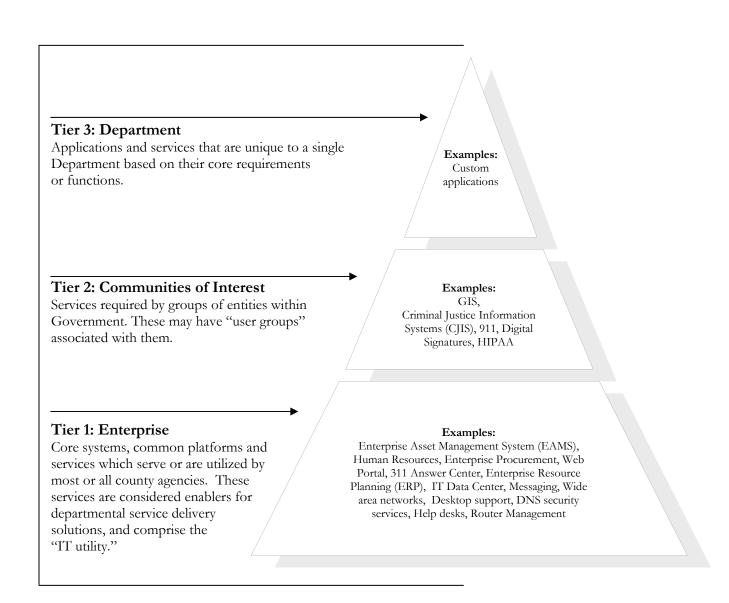
3.3 A BALANCED APPROACH TO THE ORGANIZATION OF IT ASSETS

Experience has demonstrated that there are benefits to both centralized and decentralized IT organization and management structures. A hard line does not exist between these approaches. The key is to organize responsibilities between departments and the central IT organization in a way that balances each of their respective strengths and weaknesses.

Even before examining roles and responsibilities, we need a model that helps us effectively organize our IT assets. Most IT assets are likely to fall into one of three principal categories: enterprise-class services, shared (community of interest) services and specialized (department-specific) services. Figure 1 establishes a model for aligning the County's information technology systems along these three categories. Viewing our existing and

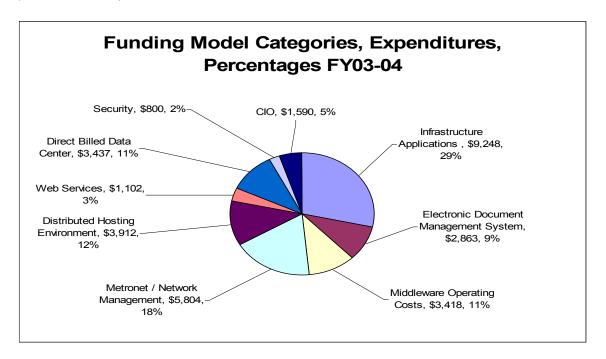
potential IT assets in this manner allows us to identify which systems could be moved to the enterprise-level to better maximize resources. It simultaneously allows responsiveness to business issues and accountability to department management, while establishing enterprise-wide efficiency and consistency.

FIGURE 1 THREE-TIER APPROACH TO MANAGING IT ASSETS



3.3.1 TIER 1 – THE ENTERPRISE

Enterprise systems represent about \$30 million or 30% of the central technology organizational spending. These are comprised of the utility-type IT systems and services that all departments and agencies need to function in today's information age, and would include administrative Systems (i.e., Budget, Finance, Human Resources, Procurement), electronic Government Operations (i.e., web portal, Intranet, Answer Center), Network Operations (i.e., Data, Video), servers, routers, and the IT data center.



Responsibility for these areas allows the CIO to have direct operational authority over core systems providing a greater capability to create and implement enterprise strategies, processes and standards. Additionally this allows the CIO to be directly involved in both the development and operations of the enterprise infrastructure which increasingly is the backbone of all business processes.

3.3.2 TIER 2 – COMMUNITIES OF INTEREST

Tier 2, the Communities of Interest, represents virtual user groups that are comprised of multiple County departments or agencies that have a mutual interest in common areas such as shared processes, data or systems. These groups are officially recognized by the County IT Policy, and are formally commissioned by the CIO. "Communities of Interest" that currently exist typically include:

- Geographical Information System (GIS)
- Criminal Justice Information System (CJIS)

- **911**
- Digital Signatures
- Electronic Document Management System (EDMS)

Each community is empowered to: select its member departments; recommend IT policy, strategy, priorities, plans and standards which are binding upon the entire Community; and resolve IT issues between member departments and bring unresolved issues to the CIO.

3.3.3 TIER 3 - THE DEPARTMENT

Departments with unique IT application and service needs comprise Tier 3, the final level of the three-tier governance model. For systems, processes or data that reside strictly within the department, the widest latitude is given in terms of IT strategic planning and procurement as long as the department: 1) adheres to County-wide standards; 2) adheres to applicable Communities of Interest standards; and 3) justifies its expenditures following County policies and guidelines.

3.4 BENEFITS OF THE THREE-TIER MODEL

The three-tiered model increases the ability to access and share information, as well as align and link business processes. Additionally, the model:

- Provides order in a complex and changing business environment
- Enables the establishment and sustainability of horizontal business processes
- Identifies costly redundancies
- Maximizes innovation, flexibility and speed
- Achieves better pricing through the consolidation of IT procurement
- Provides the framework for determining the appropriate level of project oversight among the Office of the CIO, the Executive Governance Committee, Decision-Making Committee, Communities of Interest Subcommittees, other working sub-committees, and individual departments

The result will enable a leaner, yet balanced approach to technology with services that work better than those we have today. It most instances, it is not about owning the data but about accessing needed information on a timely basis that creates the opportunity for better services and more value.

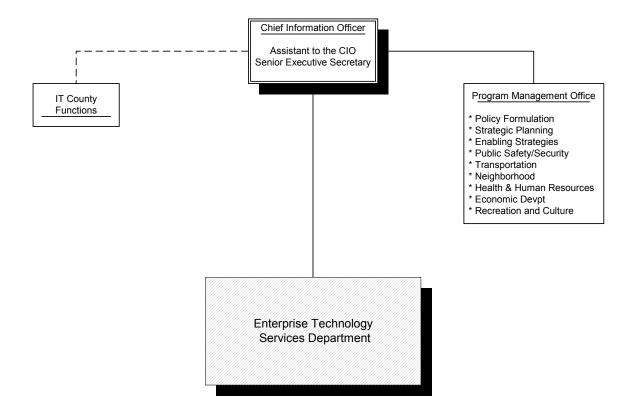
3.5 ROLES AND RESPONSIBILITIES

Organizing IT assets along the tiered approach can be realized if we are able to strike an accord between autonomy and the enterprise at Miami-Dade County. But it will not happen

automatically. It requires a commitment to collaborate by all stakeholders – County leaders, departments and IT practitioners -- and a clear understanding of the roles and responsibilities involved.

THE CIO SERVES AS THE FACILITATOR to ensure that assets and information are shared across the organization, and that business units have the knowledge and tools required to apply technology. The CIO must be an effective champion for collaboration, help align IT with business needs, and provide the leadership to insure that the governance model for managing IT is truly effective. Figure 2 illustrates the new table of organization for the Office of the CIO.

Within the Office of the CIO, Program Managers will be assigned along the county's various 'lines of business' as organized in the County Manager's Office, but will work as a team to provide cross-organizational coordination for an enterprise technology environment. They will work with technical project managers to apply technology solutions to business requirements, and with county leadership (ACMS and Department Directors) to provide guidance and advice on how technology can be applied to improve county service and operations. Additionally, they will work closely with OSMB to develop performance matrices and align technology to the strategic planning process.



THE CENTRAL IT ORGANIZATION SERVES IN A DUAL ROLE: as an enabler (much like a utility) to provide safe, reliable, secure, available, efficient and dependable technology, as well as a service provider. An enterprise environment reduces the range and complexity of issues that the IT organization must manage and operate, so that it can focus on minimizing risk and maximizing service provision for customers.

THIS FREES UP DEPARTMENTS TO BE THE INNOVATORS OF IMPROVED SERVICE by applying technology as an enabling strategy. In so doing, departments are able to focus their resources on the utilization of innovative IT applications that will:

- Lower costs
- Simplify doing business with the County
- Speed up key business processes
- Make geographic distance irrelevant
- Improve decision-making
- Enhance public perception
- Improve employee morale and education

The success of this shared vision for technology will rely on a strong governance model, a balanced funding model, and a commitment on the part of individuals and stakeholders to carry out the roles and responsibilities they have been tasked with.

CHAPTER 4 - GOVERNANCE

"Policy before technology" is a guiding principle for the State of Florida and one which Miami-Dade County must embrace as well. Information technology is a tool and an enabler of the work that is performed and managed by the various lines of business within and across County government. What we do with information technology and how we provision it relies on leadership provided by Miami-Dade County. The mission of governance is to assist County leaders in their responsibility to make IT successful in supporting the County's mission and goals.

4.1 THE ROLE OF IT GOVERNANCE

Governance refers to the manner in which information technology is managed and controlled at Miami-Dade County. Effective governance can enhance levels of respect and credibility between business units and internal technology providers, help to align IT solutions with business needs, and help to align both with the County's broader strategic goals. Critical matters such as IT priorities, resource allocation, service and the business value of IT to the enterprise will be decided upon through governance, using a model that balances the benefits of local autonomy with the advantages of enterprise-wide IT coordination and management.

Table 1 outlines the proposed CIO Governance structure, comprised of an IT Policy Council, Advisory Committees and various Working Groups.

Table 1 IT Governance Roles and Responsibilities

GOVERNING BODY	COMMITTEE STRUCTURE	MEMBERS
do (Ekiviro Bob)		
IT Policy Council		
Implements recommendations submitted by the Advisory Committees, provide leadership in setting overall policy direction for IT, insure alignment between IT and the County's strategic goals, and serve in a problem resolution capacity	Executive	Chair: Cty Mgr Standing Positions: CIO, OMB Dir., ETSD Dir., ACMS 60% GF/40% Prop
Advisory Committees		
Obtain strategic direction from the IT Policy Council, develop working committees, provide these committees with agenda and goals, set priorities for Tier 1 and Tier 2 projects and make recommendations to the Policy Council based on input from the working committees. There may be multiple Advisory Committees with varied levels of participation dependent upon the nature and timing of the initiative.		Chair: CIO and / or Executive Sponsor Members: Department Directors or Designee
Working Committees / Group		
Obtain direction from the CIO, IT Policy Council, and / or Advisory Committee, perform research and analysis functions on proposed new policy decisions and business enabling technology iniatitives, including funding new projects, operational impacts and technology impacts, and makes sound recommendations to the Advisory committee. There may be multiple Working Groups.	Working Committee	Chair: Appointed By
Chief Information Officer		
The functional role is to formulate and maintain a governance structure to enable communication between the different committees and perform the function of an advisory body.		Chair: CIO Members: Program Managers
Departments Business Units	1	
The departmental business units are responsible for creating and maintaining at the Advisory Committee's request; steering committees and working groups. The primary function will be to over see technical projects / programs that are mostly Tier 3 & 2.	Working Committee	Chair: Department Director Members: Department Staff, ETSD, Etc.
Enterprise Technology Services Department	1	<u> </u>
Understands technical implications of business strategies. Serves in a consultant capacity in the formulation of new policies and procedures. Provides good faith estimates on proposed projects. Delivers infrastructure, tools and approaches to meet changing business needs.	Working Committee	Chair: Department Director Members: Department Staff, ETSD, Etc.

Additionally, there are several technology working groups, including but not limited to:

■ The Funding Sub-committee - reviews Tier 1 (and Tier 2) application funding requests, recommends funding methods, recommends the addition or deletion of Tier1/Tier 2 applications

- The Architecture Sub-committee reviews the County's infrastructure, recommends IT architecture standards and guidelines to leverage best practices across the County. It also reviews current and proposed projects for alignment and compliance with enterprise standards and guidelines (Tier 1 and Tier 2).
- The IT Team Leaders Sub-committee uses the close proximity of its members to the business units to sharpen perspective and serve as an effective communication channel, provide information exchange, fact gathering, etc.

The vision of the model aims to accomplish several objectives including: create a governance structure characterized by accountability, stability, flexibility, and responsiveness to the county's needs for Information Technology; develop clear decision-making processes aligned with the institutional mission and goals to build stakeholder confidence; and ensure that all interests including enterprise, community, and departmental interests are adequately represented.

The framework described within this document will be used as a starting point to develop a comprehensive integrated governance process which will include specific decision processes, budget timeline alignment, committee and group scheduling, and a review mechanism. Please see Appendix A for highlights on key foundation governance principles.

4.2 KEY ENABLERS

4.2.1 COMMUNICATION

An active communication strategy is critical to the success of governance:

- Creating awareness of the governance processes and bodies
- Building credibility in the governance through "seeing it in action"
- Creating alignment across the organization to achieve the outcomes desired

4.3.2 PERFORMANCE MANAGEMENT

A digital dashboard (a type of functional balanced scorecard) will enable managers and leaders to assess overall IT business performance, provide early warnings on technology-related operational risk and identify areas for operational and financial improvement.

CHAPTER 5 - THE FUNDING MODEL

The funding model serves to close the gap between project initiatives and funding resources. It also sets policy on a funding methodology for Tier 1 (Enterprise) and Tier 2 (Communities of Interest) applications. It defines an owner, service provider, and customer, which would be the business unit, internal technology support, and departmental users respectively. This definition is critical for strategic alignment of technology resources with countywide initiatives enabling a governance model to be imposed for determining the importance and proper funding of a technology project or program.

5.1 RATIONALE FOR CHANGE

The prior funding approach left the internal technology departments justifying countywide project needs and funding. This approach was flawed for the reason that it could not champion all requested technology needs from the business units. Combine that challenge with changing project scopes, budget cuts, and inadequate long term planning, and it is safe to conclude that strategic alignment with the business processes was difficult at best. This approach also placed the service provider in a position to control supply and demand, which is detrimental for building departmental relationships. If funding was cut, a departmental project was reduced in scope or eliminated, determined by a service provider that did not have a vested interest in the project from a business perspective, leaving the business unit without a end product.

The proposed rationale for the funding model is to shift the responsibility for project or program justification on the business unit or owner of the application. This will strategically place the internal technology provider as a true service provider, with responsibility for providing technical services. Having the business unit owning the application with the revenue coming from customer departments encourages an atmosphere for delivering services that have a ROI or business need. This is accomplished by a structured governance committee that reviews project and program initiatives granting funding appropriations and reviewing performance and deliverables.

5.2 BENEFITS OF THE FUNDING MODEL

The benefits for the stakeholders (Customers) from a central funding model will be realized in the areas of service delivery, centralized resources, equalization of funding tying general fund and proprietary departments together, and budgetary benefits.

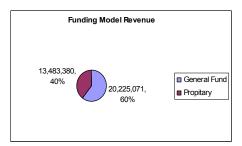
In the current funding arrangement, all TIER 1 applications that are funded by the GF have an OSMB imposed administrative fee. In most cases, the service provider acquires the funds but may fall short on service delivery, without any recourse from the customers who have to pay into the administrative fee. Another problem that may happen is a GF cut to a TIER 1 application that the service provider gives up, but OMB still charges the full proprietary administrative fee.

• The new funding model eliminates these disconnects, for the customer pays directly for a service to be provided thus enabling direct involvement in its

progress holding both the owner and service provider responsible for its deliverables. If the GF portion gets cut, the proprietary portion is either returned or reallocated.

- It gives the customer the ability to review TIER 1 initiatives before funding is granted or continued to offer suggestions for improvement. This allows central IT to focus efforts on the priorities dictated by the county's overall strategic plans.
- Having the involvement of customers paying directly for TIER 1 applications encourage use of centralize technology resources, increasing the County's leverage. This enables the County to employ one focal point for hardware and software purchases thus increasing the County's ability to negotiate better terms and conditions.
- It engages county business leaders in the process of determining how IT funds are allocated to meet business requirements. This will promote the establishment of an enterprise strategy to serve departments common needs such that departments need not make redundant investments in technology solutions that are not unique to their business needs.

Due to the nature of the funding model, projects will not likely be cut in savings plans. Periodically, departments are asked to reduce service levels and save on general fund costs. One of the first initiatives to get reduced or cut is technology. The likelihood of this happening is reduced due to the 40% proprietary contribution that would be lost.



The funding model also incorporates a cost accounting model listing each projects total cost. This gives the policy maker the information needed to determine funding requirements and the ability to cut a project instead of reducing overall costs to unreasonable levels. For example, cut a HR initiative instead of training across the board.

5.3 GOVERNMENT AND MANAGEMENT OF THE FUNDING MODEL

A funding committee will be established that is comprised of the CIO, department technology leaders representing general fund and proprietary departments, owners of Tier 1 applications, OSMB, and CMO.

The primary responsibility of the committee is to govern the use of technology resources as it relates to Tier 1 and 2 applications. This includes determination of funding allocations, reviewing deliverables of existing projects, project priority setting, and new project development. Specific roles of committee members are:

- The CIO will be a facilitator of the funding committee responsible for creating agendas, project and vendor presentations, project initiation and project oversight and motoring as well as approval of the project initiation plan. In addition, the CIO will sponsor Tier 1 applications included in the funding model and be considered the owner.
- ETSD (Service Provider) will be responsible for creating a cost accounting structure by project cost. They will create and maintain a value statement of services provided for departments (customers).
- The County Manager's Office will be involved to ensure that infrastructure applications are funded, to resolve issues that cannot be addressed by the committee, and has the overruling opinion.
- The Departments (customers) will ensure that projects are kept on target, offer a community for providing solutions, and evaluate projects to determine alignment to business operations from an end user perspective.
- The business units (owners) will be responsible for providing project justification and change of scope documents and presentations to the funding committee. They will be responsible for monitoring project costs and obtaining additional funding for enhancements.
- OSMB will represent the general fund interest of the County. They will also have the ability to adopt new funding methodologies that are recommended from the committee. They will also ensure that the funding model adequately funds TIER 1 and 2 applications as approved by the governance committee.

5.4 RELATIONSHIP OF THE NEW FUNDING APPROACH TO DEPARTMENTAL BUDGETS

The new funding approach changes both the expenditure allocation and revenue source. The existing funding combines all applications and initiatives into one or several expense index codes. The new model will utilize a cost accounting system listing all infrastructure applications expenditures in a separate project. This will enable the business unit (owner) to track expenses.

Instead of having the general fund cover infrastructure application expenditures, a technology administrative fee will be imposed to all departments. This will be based on the executive funding model recommendation of calculating cost distribution based on a departments budgeted positions. All revenue collected from this fee will be applied to the cost of infrastructure applications.

The service provider (internal technology) will be responsible for estimating maintenance and new project development accurately; failure to do so will result in the service provider absorbing the overruns. If the owner changes scope, which results in costs overruns, they will be responsible for obtaining additional funding. If funding for a project gets cut, all remaining revenue will be diverted back to the customers. If the service provider is able to

deliver the service at a reduced cost, funding should be returned either to the departments or committee for re-allocation.

5.5 IMPLEMENTATION OF THE FUNDING MODEL

The funding model was implemented at the start of FY03-04. The funding model working committee is currently reviewing the up-coming priorities and schedule of meetings. Funding recommendations for technology will be provided by this committee during this year's budget cycle.